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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,169	12/14/2001	Robert O. Judkins	ROJ-101	5859

7590 09/10/2003

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EXAMINER
LIN, TINA M

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,169	JUDKINS, ROBERT O.	
	Examiner	Art Unit	
	Tina M Lin	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 14 December 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Brian Healy
Primary Examiner

DETAILED ACTION

The abstract of the disclosure is objected to because the abstract is too long. The Examiner has counted more than 150 words. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper format for an abstract of the disclosure.

> "The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. "

The disclosure is objected to because of the following informalities: On page 8 of the disclosure, line 22, the letter "s" after mode and before the word propagated appears to be a typographical error. The letter "s" appears that it should read as the word "is". Appropriate correction is required. Additionally, Applicant's cooperation is requested in correcting any other errors of which applicant may become aware of in the specification.

New corrected drawings are required in this application because: the drawings filed with this application on 14 December 2001, are objected to as being informal. Notice that all the Figures are hand drawn and the labels on the figures are handwritten. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,478,371 to Lemaire et al. Lemaire et al. discloses a UV radiation from a laser applied to a doped multi-mode fiber for the purpose of adjusting the refractive index of the device. But, Lemaire et al. fails to disclose a light ray to pass through the fiber. However, the primary function of a fiber is to carry a light ray through the fiber. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have passed a light ray though the multi-mode fiber. Lemaire et al. further fails to disclose monitoring the desired property of the exiting ray and to stop the radiation as soon as the desired output is achieved. However, one with skill in the art would know to monitor the output of the exit ray and stop the radiation once the desired results were achieved. Further inducing radiation on the multi-mode fiber would change the refractive change and therefore alter the exit ray's properties. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have monitored the desired property of the exit ray and to stop the radiation as soon as the desired output is achieved.

Claim3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S, Patent 5,478,371 to Lemaire et al., and further in view of U.S. Patent 4,701,011 to Emkey et al. Lemaire et al. discloses a doped multi-mode fiber exposed to an altering means for the purpose of adjusting the refractive index of the device. But, Lemaire et al. fails to disclose a single mode fiber to be coupled to a graded index fiber. However, Emkey et al. discloses fusing a single mode fiber with a graded index multi-mode fiber. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have coupled a single

mode fiber to a multi-mode fiber since the coupling of the single mode fiber to the multimode fiber has no resultant effect on the alteration of the refractive index.

Claim 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,478,371 to Lemaire et al. and in further view of U.S. Patent 4,701,011 to Emkey et al. and U.S. Patent 5,325,456 to Cullen et al. Lemaire et al. discloses a doped multi-mode fiber exposed to an altering means for the purpose of adjusting the refractive index of the device. But Lemaire et al. fails to disclose cutting a length of a graded index multi-mode fiber to a length that approximates B (n + 0.5) and fusing the multi-mode fiber with the single mode fiber. However, Emkey et al. discloses fusing a single mode fiber with a graded index multi-mode fiber. Emkey further discloses that the multi-mode fiber fused with a single mode fiber would be a coupler. In order for the coupler to join with another device, the multimode fiber is cut at a desired location. (Column 4) Although Emkey does not specifically disclose an equation of where to cut the multi-mode fiber, it would have been obvious to cut the multi-mode fiber at a length of B (n + 0.5) in order to create a collimated light output. By the definition and function of the light in the multi-mode fiber, cutting the light at an alternative place would create a scattering or dispersion effect. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have fused the multi-mode fiber with the single mode fiber and cut a length of a graded index multi-mode fiber to an appropriate length. Furthermore, Lemaire et al. and Emkey et al. fail to disclose removing and cleaning a protective jacket and then cleaving a single mode fiber. However, Cullen et al. discloses terminating a fiber by stripping, cleaning and then cleaving a single mode fiber. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have removed the

protective jacket, cleaned the fiber and then cleaved the fiber during the process of terminating the fiber before fusing another fiber to it. Lastly, Lemaire et al., Emkey et al. and Cullen et al. all fail to disclose a light ray to pass through the fiber, monitoring the desired property of the exiting ray and to stop the radiation as soon as the desired output is achieved and placing the coupled components into a desired configuration. However, the primary function of a fiber is to carry a light ray through the fiber. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have passed a light ray though the multi-mode fiber. Additionally, one with skill in the art would know to monitor the output of the exit ray and stop the radiation once the desired results were achieved. Further inducing radiation on the multi-mode fiber would change the refractive change and therefore alter the exit ray's properties. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have monitored the desired property of the exit ray and to stop the radiation as soon as the desired output is achieved. Furthermore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to place the components to be coupled in a desired configuration.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References D-G all discuss the coupling of multi-mode fibers with single mode fibers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TML
03 September 2003

Brian Healy
Primary Examiner